

1271

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**QUARTERLY REPORT AIRBORNE URANIUM
EMISSIONS APRIL 3, 1990 TO JULY 9, 1990**

XX/XX/XX

DOE-FMPC/USEPA

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REPORT

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ENCLOSURE 1

QUARTERLY REPORT
AIRBORNE URANIUM EMISSIONS
APRIL 3, 1990 TO JULY 9, 1990

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QUARTERLY REPORT
AIRBORNE URANIUM EMISSIONS
APRIL 3, 1990 TO JULY 9, 1990

FEDERAL FACILITIES COMPLIANCE AGREEMENT
CLEAN AIR ACT SECTION - ITEM E

U.S. DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER
FERNALD, OHIO

AIRBORNE EMISSIONS REPORT FOR THE PERIOD 4/3/90 TO 7/9/90
IN RESPONSE TO ITEM E OF THE CLEAN AIR ACT SECTION
FEDERAL FACILITIES COMPLIANCE AGREEMENT

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Introduction

This report is submitted in response to Item E of the Clean Air Act Section of the Federal Facilities Compliance Agreement. Specifically, the EPA has required the following action:

"U.S. DOE shall maintain records of monthly particulate matter emissions and shall provide U.S. EPA with quarterly reports."

The emissions of concern are considered to be particulate uranium. Air emissions at the FMPC are routinely analyzed for total uranium.

Dust Collectors

There are fifty-one (51) dust collectors currently operational at the FMPC which handle uranium dust. None of these were operated during the reporting period. Dust collectors G5-262, G5-284, G5-1029, and G55-1016 are equipped with a multiple point continuous isokinetic sampler. All other dust collectors are equipped with a single point particulate sampler. A sampler consists of a pleated paper filter in a cap-shaped holder. Air is drawn through the filter, leaving any particulates on the paper. At regular intervals, the filters are destructively analyzed for uranium.

Scrubbers

The major emission points not monitored at the FMPC are the streams which exit wet scrubber systems. Because of the high moisture content of the exhaust gas, conventional monitors cannot be used. In the case of a filter sampler, the paper quickly becomes saturated and restricts air flow. To date, a real-time monitor has not been found that can be used in the scrubber exhausts. Particulate emissions reports will include estimated uranium losses from the FMPC scrubber systems. These estimates are based on emissions factors obtained from earlier U.S. EPA Method V stack testing.

There are thirteen (13) scrubbers currently operational at the FMPC which handle uranium emissions. No scrubbers were operated during the reporting period.

Other Emissions

Emissions from eight (8) sources, which do not have samplers installed, are calculated monthly. Emissions factors for these sources are based on hours of operation in the mode which results in an air emission, U.S. EPA Method V stack testing or engineering estimates. There were emissions from three (3) of these sources during the reporting period.

Building vents are not included in particulate emissions reports because uranium losses, if any, from these are non-detectable.

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 4/3/90 TO 7/9/90

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg) Stack Total	% of FMPC Total
Plant 1				
007	G2-1	I	N/O	0
005	G2-2	I	N/O	0
006	G2-64	I	N/O	0
003	G2-76	I	N/O	0
015	G2-171	I	N/O	0
001	G2-172	I	N/O	0
016	G2-235	I	N/O	0
010	G2-6014	I	N/O	0
002	G2-6042	I	N/O	0
Total Plant 1 Emissions			0.0	0
Plant 2/3				
023	G1-94	I	N/O	0
023	G1-856	I	N/O	0
092		S	N/O	0
093		S	N/O	0
001		S	N/O	0
Total Plant 2/3 Emissions			0.0	0
Plant 4				
008	G4-1	I	N/O	0
005	G4-2	I	N/O	0
025	G4-4	I	N/O	0
009	G4-5	I	N/O	0
001	G4-7	I	N/O	0
006	G4-12	I	N/O	0
003	G4-13	I	N/O	0
004	G4-14	I	N/O	0
W. Talcum Cooling Vent		I	N/O	0
002		S	N/O	0
Total Plant 4 Emissions			0.0	0.0

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 4/3/90 TO 7/9/90

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg) Stack Total	% of FMPC Total
Plant 5				
3	G5-248	I	N/O	0
4	G5-249	I	N/O	0
5	G5-250	I	N/O	0
9	G5-254	I	N/O	0
10	G5-256	I	N/O	0
13	G5-260	I	N/O	0
14	G5-261	I	N/O	0
17	G5-262	I	N/O	0
19	G5-267	I	N/O	0
15	G5-284	I	N/O	0
22	G5-1029	I	N/O	0
15	G5A-100	I	N/O	0
16	G5A-101	I	N/O	0
18	G55-1016	I	N/O	0
18	G55-E100	I	N/O	0
E. Mold Cooling Booth		I	N/O	0
Graphite Breakup Booth		I	N/O	0
Remelt Furnace		O	N/O	0
E. Cooling Well		I	N/O	0
W. Cooling Well		I	N/O	0
Total Plant 5 Emissions			0.0	0
Plant 6				
3 S ESP	G6-3578	I	N/O	0
6		S	N/O	0
Briquetting Scrubber		S	N/O	0
Scrap Pickling		S	N/O	0
Total Plant 6 Emissions			0.0	0

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 4/3/90 TO 7/9/90

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg)	
			Stack Total	% of FMPC Total
Plant 8				
008	G8-7	I	N/O	0
006	G8-8035	I	N/O	0
001	G43-27	I	N/O	0
011	G43-29	I	N/O	0
002 Rotary Kiln		S	N/O	0
007 Oxidation No. 1		S	N/O	0
009 Oxidation No. 2		S	N/O	0
010 Box Furnace		S	N/O	0
005 Primary Calciner		S	N/O	0
Drum Washer		0	0.0	0
EIMCO #1		0	0.000324	1.976
Oliver Filter		0	0.002874	17.527
Total Plant 8 Emissions			0.003198	19.503
Plant 9				
001	G9E2-400	I	N/O	0
	G9N1-1035S	I	N/O	0
Zirnl-Derby Pickling		0	0.0	0
Total Plant 9 Emissions			0.0	0
Pilot Plant				
015	G-1	I	N/O	0
016	G-2	I	N/O	0
R-14	735-13-7041	I	N/O	0
R-50	735-13-7051	I	N/O	0
	Reactor Area	S	0.0	0
	Stokes Vacuum Pump	0	0.0	0
Total Plant Pilot Plant Emissions			0.0	0.0

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 4/3/90 TO 7/9/90

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg)	
			Stack Total	% of FMPC Total
<hr/>				
Laboratory				
001	G15-001	I	0.0	0.0
Total Laboratory Emissions			<hr/> 0.0	<hr/> 0.0
NAR System				
Total NAR Emissions		0	0.0	0
D & D Facility				
Total D & D Facility Emissions		0	0.013200	80.498
<hr/>				
Summary of FMPC Air Emissions for the Second Quarter CY 1990			0.016398	100

KEY: I - Stack sampler is installed.
 S - Scrubber system, emissions are estimated.
 0 - No sampler installed, emissions are estimated.
 N/O = The dust collector and associated process sources were not operated during the reporting period.

FMPC Restoration - Environmental Compliance

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Stack Discharge Report for the Period from April 3, 1990 to May 2, 1990

Collector Number	Status	Notes	Stack Discharges Estimated		Total
			During This Reporting Period kg U	Sampling Interval	This Year kg U
Plant 1					
G2-1	5	Filter #892	N/O	10/15/89	0.0
G2-2	5	Filter #894	N/O	10/15/89	0.0
G2-64	5	Filter #877	N/O	10/15/89	0.0
G2-76	5	Filter #891	N/O	10/15/89	0.0
G2-171	5	Filter #895	N/O	10/15/89	0.0
G2-172	3	Filter #73	N/O	3/11/90 to 4/8/90	0.0
G2-235	3	Filter #69	N/O	3/4/90 to 4/1/90	0.0
	4	Filter #97	N/O	4/1/90 to 4/30/90	0.0
G2-6042	Dismantled		N/O	10/16/89	0.0
G2-6014	3	Filter #74	N/O	3/11/90 to 4/8/90	0.000356
Totals			0.0		0.000356

Plant 2/3					
G1-94	5	Filter #963	N/O	11/22/89	0.0
G1-856	Dismantled		N/O	11/13/89	0.0
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Totals			0.0		0.0

Plant 4					
G4-1	5	Filter #897	N/O	10/15/89	0.0
G4-2	5	Filter #904	N/O	10/15/89	0.0
G4-4	3	Filter #75	N/O	3/11/90 to 4/8/90	0.0
G4-5	3	Filter #76	N/O	3/11/90 to 4/8/90	0.0
G4-7	5	Filter #898	N/O	10/15/89	0.0
G4-12	5	Filter #899	N/O	10/15/89	0.0
G4-13	5	Filter #900	N/O	10/15/89	0.0
G4-14	5	Filter #931	N/O	10/24/89	0.0
Talcum cooling vent	5	Filter #901	N/O	10/15/89	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.

2 - Filter inspected but not changed.

3 - Filter changed, analyzed and discharge estimated.

4 - Filter changed but analysis not complete. To be reported.

5 - Collector abandoned or on standby. Stack sampler not routinely inspected or serviced

N/O = The dust collector and associated process sources were not operated

FMPC Restoration - Environmental Compliance

Stack Discharge Report for the Period from April 3, 1990 to May 2, 1990

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Collector Number	Status	Notes	Stack Discharges Estimated		Total
			During This Reporting Period kg U	Sampling Interval	This Year kg U
Plant 5					
G5-247	5	Filter #120	N/O	4/24/90	0.0
G5-248D	3	Filter #92	N/O	3/24/90 to 4/21/90	0.0
G5-248S	3	Filter #93	N/O	3/24/90 to 4/21/90	0.0
G5-249	Dismantled		N/O		0.0
G5-250	Dismantled		N/O		0.0
G5-254	Dismantled		N/O		0.0
G5-267	Dismantled		N/O		0.0
G5-256	3	Filter #77	N/O	3/17/90 to 4/15/90	0.0
G5-260	3	Filter #78	N/O	3/17/90 to 4/15/90	0.0
G5-261	3	Filter #79	N/O	3/17/90 to 4/15/90	0.0
G5-262	3	Filter #80	N/O	3/17/90 to 4/15/90	0.0
G55E-100	3	Filter #81	N/O	3/17/90 to 4/15/90	0.002301
G5A-100	3	Filter #82	N/O	3/17/90 to 4/15/90	0.0
G5A-101	3	Filter #83	N/O	3/17/90 to 4/15/90	0.0
G5-284D	3	Filter #62A	N/O	3/2/90 to 3/31/90	
	4	Filter #94	N/O	3/31/90 to 4/28/90	0.0
G5-284S	3	Filter #63A	N/O	3/2/90 to 3/31/90	
	4	Filter #95	N/O	3/31/90 to 4/28/90	0.0
G55-1017D	3	Filter #84	N/O	3/17/90 to 4/15/90	0.0
G55-1016S	3	Filter #85	N/O	3/17/90 to 4/15/90	0.0
G05-1029Y	3	Filter #86	N/O	3/17/90 to 4/15/90	0.0
G05-1020X	3	Filter #87	N/O	3/17/90 to 4/15/90	0.0
G05-1019X	3	Filter #89	N/O	3/17/90 to 4/15/90	0.0
Graphite Breakup Booth	5	Filter #965	N/O	11/22/89	0.0
E. Mold Cooling Booth	5	Filter #964	N/O	11/22/89	0.0
W. Mold Cooling Booth	5	Filter #968	N/O	11/22/89	0.0
East Cooling Well	5	Filter #915	N/O	10/19/89	0.0
West Cooling Well	5	Filter #916	N/O	10/19/89	0.0
Totals			0.0		0.002301

Plant 6					
North ESP	5	Filter #65	N/O	2/19/90	0.0
South ESP	5	Filter #37	N/O	1/23/90	0.0
Totals			0.0		0.0

- Status: 1 - Filter not inspected this period.
 2 - Filter inspected but not changed.
 3 - Filter changed, analyzed and discharge estimated.
 4 - Filter changed but analysis not complete. To be reported.
 5 - Collector abandoned or on standby. Stack sampler not routinely inspected or serviced

N/O = The dust collector and associated process sources were not operated

FMPC Restoration - Environmental Compliance

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Stack Discharge Report for the Period from April 3, 1990 to May 2, 1990

Collector Number	Status	Notes	Stack Discharges Estimated		Total This Year kg U
			During This Reporting Period kg U	Sampling Interval	
G43-27	5	Filter #928	N/O	10/24/89	0.0
G43-29	5	Filter #929	N/O	10/24/89	0.0
G8-8035	5	Filter #930	N/O	10/24/89	0.0
G8-8057	5	Filter #896	N/O	10/15/89	0.0
Totals			0.0		0.0

Plant 9					
G9E2-400	5	Filter #38	N/O	1/23/90	0.0
G9N1-1035D	3	Filter #71	N/O	3/10/90 to 4/6/90	0.0
G9N1-1035S	3	Filter #72	N/O	3/10/90 to 4/6/90	0.0
Totals			0.0		0.0

Pilot Plant					
735-13-7041	5	Filter #39	N/O	1/23/90	0.0
735-13-7051	5	Filter #40	N/O	1/23/90	0.0
G-1	3	Filter #70	N/O	3/4/90 to 4/1/90	0.0
	4	Filter #96	N/O	4/1/90 to 4/30/90	0.0
G-2	3	Filter #88	N/O	3/17/90 to 4/14/90	0.0
Totals			0.0		0.0

Lab Bldg.					
G15-001	3	Filter #91	N/O	3/24/90 to 4/20/90	0.0
Totals			0.0		0.0

SITE TOTALS			0.0		0.002657
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- Status: 1 - Filter not inspected this period.
 2 - Filter inspected but not changed.
 3 - Filter changed, analyzed and discharge estimated.
 4 - Filter changed but analysis not complete. To be reported.
 5 - Collector abandoned or on standby. Stack sampler not routinely inspected or serviced

N/O = The dust collector and associated process sources were not operated

TABLE B

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FMPC Controller's Organization - Materials Control & Accountability

Plant 8 Wet Scrubber Emission Report for the Period from 4/01/90 TO 4/30/90

Wet Scrubbers	Emission Factors	Wet Scrubber Emissions Calculated During This Reporting Period		Total This Year
	U gms./hr. oper.	kg. U	Operating Hours	kg. U
Rotary Kiln	1.01 *	0	0	0
Oxidation No. 1 Furnace	7.11 *	0	0	0
Box Furnace	2.06 *	0	0	0
Primary Calciner	0.51 * 3.00 **	0	0	0
Totals		0	0	0

- * Current emission factors are based on USEPA-approved stack testing studies. These factors are documented in a letter, A. M. Schwartzman to D. L. Dunaway, dated July 5, 1988, Plant 8 Scrubbers.

- ** This emission factor is based on continuous stack sampling performed while Primary Calciner was drying wet sump cake (MTC 0069) during April 1989.

TABLE C

Estimated Uranium Emissions - Unmonitored Stacks

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Plant	Stack	Emission Factors*	YTD	
			Total Cumulative Emissions (Kg U)	Estimated April Emissions (KgU/mo)
5	Jolter Mufflers - east	6.03E-7 Kg U/liner	0.000000	0.000000
	Jolter Mufflers - west	6.03E-7 Kg U/liner	0.000000	0.000000
5	Breakout Jolter Muffler	8.22E-10 Kg U/derby	0.000000	0.000000
5	Remelt furnace Hilco Oil Reclamation/Furnace Vacuum Pump System	7.62E-8 Kg U/hr	0.000000	0.000000
6	Briquetting scrubber **	1.38E-6 Kg U/lb U processed	0.000000	0.000000
6	Scrap pickling **	3.46E-4 Kg U/hr	0.000000	0.000000
8	Drum washer	3.0E-4 Kg U/hr	0.000000	0.000000
8	Eimco filter - filter #1	9.08E-5 Kg U/lb	0.015222	0.000000
	Oliver filter - east filter	9.08E-5 Kg U/lb	0.002575	0.000743
8	Eimco filter hood fan ***	4.89E-6 (Kg U/hr)*(min*m3/dis)	0.000000	0.000000
9	Zirno - derby pickling	7.45E-6 Kg U/derby	0.000000	0.000000
Pilot Plt	Reactor area - Hydrogen safety system exhaust vent ***	1.61E+7 (Kg U/hr)*(cc/micro Ci)	0.000000	0.000000
Pilot Plt	Reactor area - Scrubber C (Vessel 1 & 2 offgas line)	6.62E-9 Kg U/hr	0.000000	0.000000
Pilot	Annex area - Stokes vacuum pump	1.73E-8 Kg U/hr	0.000000	0.000000
	NAR	Based on U concentration	0.000000	0.000000
	Decontamination and Decommissioning	1.1E-4 Kg U/batch	0.014630	0.003300
TOTAL - Kg U/month			0.032427	0.004043

* Hours as used in emission factor represent hours of operation in the mode which results in an air emission.

** Factors for Plant 6 Scrap Pickle and Briquetting were determined before these facilities were tied into the NOx Destructor. As a result, U emissions will be lower than reported. New emission factors will be developed when stack sampling is complete.

*** Due to the length of time required to analyze air activities, the reported values represent emissions from the previous month.

Environmental Compliance - Air/Water Compliance

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Stack Discharge Report for the period from May 2, 1990 to June 5, 1990

Collector Number	Status	Notes	Stack Discharges Estimated		Total This Year kg U
			During This Reporting Period kg U	Sampling Interval	
Plant 1					
G2-1	5	Filter #892	N/O	10/15/89	0.0
G2-2	5	Filter #894	N/O	10/15/89	0.0
G2-64	5	Filter #877	N/O	10/15/89	0.0
G2-76	5	Filter #891	N/O	10/15/89	0.0
G2-171	5	Filter #895	N/O	10/15/89	0.0
G2-172	3	Filter #100	N/O	4/8/90 to 5/6/90	
	4	Filter #127	N/O	5/6/90 to 6/2/90	0.0
G2-235	3	Filter #97	N/O	4/1/90 to 4/30/90	
	3	Filter #124	N/O	4/30/90 to 5/27/90	0.0
G2-6042		Dismantled	N/O	10/16/89	0.0
G2-6014	3	Filter #101	N/O	4/8/90 to 5/6/90	
	4	Filter #128	N/O	5/6/90 to 6/2/90	0.000356
Totals			0.0		0.000356
Plant 2/3					
G1-94	5	Filter #963	N/O	11/22/89	0.0
G1-856		Dismantled	N/O	11/13/89	0.0
Totals			0.0		0.0
Plant 4					
G4-1	5	Filter #897	N/O	10/15/89	0.0
G4-2	5	Filter #904	N/O	10/15/89	0.0
G4-4	3	Filter #102	N/O	4/8/90 to 5/6/90	
	4	Filter #129	N/O	5/6/90 to 6/2/90	0.0
G4-5	3	Filter #103	N/O	4/8/90 to 5/6/90	
	4	Filter #130	N/O	5/6/90 to 6/2/90	0.0
G4-7	5	Filter #898	N/O	10/15/89	0.0
G4-12	5	Filter #899	N/O	10/15/89	0.0
G4-13	5	Filter #900	N/O	10/15/89	0.0
G4-14	5	Filter #931	N/O	10/24/89	0.0
Talcum Cooling Vent	5	Filter #901	N/O	10/15/89	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.

2 - Filter inspected but not changed.

3 - Filter changed, analyzed and discharge estimated.

4 - Filter changed but analysis not complete. To be reported.

5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

6 - Duct sampler, not a discharge source. Emissions not included in report.

N/O = The dust collector and associated process sources were not operated.

Environmental Compliance - Air/Water Compliance

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Stack Discharge Report for the period from May 2, 1990 to June 5, 1990

Collector Number	Status	Notes	Stack Discharges Estimated		Total This Year kg U
			During This Reporting Period kg U	Sampling Interval	
Plant 5					
G5-247D	6	Filter #120	0.0	4/24/90 to 5/18/90	0.0
G5-248D	6	Filter #118	0.0	4/21/90 to 5/18/90	0.0
G5-248S	3	Filter #119	0.0	4/21/90 to 5/18/90	0.0
G5-249		Dismantled	N/O		0.0
G5-250		Dismantled	N/O		0.0
G5-254		Dismantled	N/O		0.0
G5-267		Dismantled	N/O		0.0
G5-256	3	Filter #105	N/O	4/15/90 to 5/13/90	
	5	Filter #132	N/O	5/13/90	0.0
G5-260	3	Filter #106	N/O	4/15/90 to 5/13/90	
	5	Filter #133	N/O	5/13/90	0.0
G5-261	3	Filter #107	N/O	4/15/90 to 5/13/90	
	5	Filter #134	N/O	5/13/90	0.0
G5-262	3	Filter #108	N/O	4/15/90 to 5/13/90	
	5	Filter #135	N/O	5/13/90	0.0
G5SE-100	3	Filter #109	N/O	4/15/90 to 5/13/90	
	5	Filter #136	N/O	5/13/90	0.002301
G5A-100	3	Filter #110	N/O	4/15/90 to 5/13/90	
	3	Filter #138	N/O	5/13/90 to 5/18/90	
		Dismantled	N/O	5/18/90	0.0
G5A-101	3	Filter #111	N/O	4/15/90 to 5/13/90	
	5	Filter #137	N/O	5/13/90	0.0
G5A-284D	6	Filter #94	N/O	3/31/90 to 4/28/90	
	6	Filter #121	N/O	4/28/90 to 5/26/90	0.0
G5A-284S	3	Filter #95	N/O	3/31/90 to 4/28/90	
	3	Filter #122	N/O	4/28/90 to 5/26/90	0.0
G5S-1017D	6	Filter #112	N/O	4/15/90 to 5/13/90	0.0
G5S-1016S	3	Filter #113	N/O	4/15/90 to 5/13/90	0.0
G0S-1029X	4	Filter #114	N/O	4/15/90 to 5/13/90	0.0
G0S-1020X	3	Filter #115	N/O	4/15/90 to 5/13/90	0.0
G0S-1019X	3	Filter #116	N/O	4/15/90 to 5/13/90	0.0
Graphite Breakup Booth	5	Filter #965	N/O	11/22/89	0.0
E. Mold Cooling Booth	5	Filter #964	N/O	11/22/89	0.0
W. Mold Cooling Booth	5	Filter #968	N/O	11/22/89	0.0
East Cooling Well	5	Filter #915	N/O	10/19/89	0.0
West Cooling Well	5	Filter #916	N/O	10/19/89	0.0

Totals			0.0		0.002301

- Status: 1 - Filter not inspected this period.
 2 - Filter inspected but not changed.
 3 - Filter changed, analyzed and discharge estimated.
 4 - Filter changed but analysis not complete. To be reported.
 5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.
 6 - Duct sampler, not a discharge source. Emissions not included in report.

N/O = The dust collector and associated process sources were not operated.

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Environmental Compliance - Air/Water Compliance

1271

Stack Discharge Report for the period from May 2, 1990 to June 5, 1990

Collector Number	Status	Notes	Stack Discharges Estimated		Total This Year kg U
			During This Reporting Period kg U	Sampling Interval	
Plant 6					
North ESP	5	Filter #65	N/O	2/19/90	0.0
South ESP	5	Filter #37	N/O	1/23/90	0.0

Totals			0.0		0.0
Plant 8					
G43-27	5	Filter #928	N/O	10/24/89	0.0
G43-29	5	Filter #929	N/O	10/24/89	0.0
G8-8035	5	Filter #930	N/O	10/24/89	0.0
G8-8057	5	Filter #896	N/O	10/15/89	0.0

Totals			0.0		0.0
Plant 9					
G9E2-400	5	Filter #38	N/O	1/23/90	0.0
G9N1-1035D	6	Filter #98	N/O	4/6/90 to 5/4/90	0.0
	6	Filter #123	N/O	5/4/90 to 6/2/90	0.0
G9N1-1035S	3	Filter #99	N/O	4/6/90 to 5/4/90	0.0
	4	Filter #126	N/O	5/4/90 to 6/2/90	0.0

Totals			0.0		0.0
Pilot Plant					
735-13-7041	5	Filter #39	N/O	1/23/90	0.0
735-13-7051	5	Filter #40	N/O	1/23/90	0.0
G-1	3	Filter #96	N/O	4/1/90 to 4/30/90	0.0
	3	Filter #125	N/O	4/30/90 to 5/27/90	0.0
G-2	3	Filter #104	N/O	4/14/90 to 5/12/90	0.0

Totals			0.0		0.0
Lab Bldg.					
G15-001	3	Filter #117	N/O	4/20/90 to 5/18/90	0.0

Totals			0.0		0.0

SITE TOTALS			0.0		0.002657

- Status: 1 - Filter not inspected this period.
 2 - Filter inspected but not changed.
 3 - Filter changed, analyzed and discharge estimated.
 4 - Filter changed but analysis not complete. To be reported.
 5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.
 6 - Duct sampler, not a discharge source. Emissions not included in report.

N/O = The dust collector and associated process sources were not operated.

Table A

FMPC Controller's Organization - Materials Control & Accountability

1271

Plant 8 Wet Scrubber Emission Report for the Period from 5/01/90 TO 5/31/90

Wet Scrubbers	Emission Factors	Wet Scrubber Emissions		Total
	U gms./hr. oper.	Calculated During This Reporting Period	kg. U Operating Hours	This Year kg. U
Rotary Kiln	1.01 *	0	0	0
Oxidation No. 1 Furnace	7.11 *	0	0	0
Box Furnace	2.06 *	0	0	0
Primary Calciner	0.51 * 3.00 **	0	0	0
Totals		0	0	0

* Current emission factors are based on USEPA-approved stack testing studies. These factors are documented in a letter, A. M. Schwartzman to D. L. Dunaway, dated July 5, 1988, Plant 8 Scrubbers.

** This emission factor is based on continuous stack sampling performed while Primary Calciner was drying wet sump cake (MTC 0069) during April 1989.

Table B

Estimated Uranium Emissions - Unmonitored Stacks

1271

Plant	Stack	Emission Factors*	YTD	Estimated
			Total Cumulative Emissions (Kg U)	May Emissions (KgU/mo)
5	Jolter Mufflers - east	6.03E-7 Kg U/liner	0.000000	0.000000
	Jolter Mufflers - west	6.03E-7 Kg U/liner	0.000000	0.000000
5	Breakout Jolter Muffler	8.22E-10 Kg U/derby	0.000000	0.000000
5	Remelt furnace Hilco Oil Reclamation/Furnace Vacuum Pump System	7.62E-8 Kg U/hr	0.000000	0.000000
6	Briquetting scrubber **	1.38E-6 Kg U/lb U processed	0.000000	0.000000
6	Scrap pickling **	3.46E-4 Kg U/hr	0.000000	0.000000
8	Drum washer	3.0E-4 Kg U/hr	0.000000	0.000000
8	Eimco filter - filter #1	9.08E-5 Kg U/lb	0.015222	0.000000
	Oliver filter - east filter	9.08E-5 Kg U/lb	0.003783	0.001208
8	Eimco filter hood fan ***	4.89E-6 (Kg U/hr)*(min*m3/dis)	0.000000	0.000000
9	Zirnlo - derby pickling	7.45E-6 Kg U/derby	0.000000	0.000000
Pilot Plt	Reactor area - Hydrogen safety system exhaust vent ***	1.61E+7 (Kg U/hr)*(cc/micro Ci)	0.000000	0.000000
Pilot Plt	Reactor area - Scrubber C (Vessel 1 & 2 offgas line)	6.62E-9 Kg U/hr	0.000000	0.000000
Pilot	Annex area - Stokes vacuum pump	1.73E-8 Kg U/hr	0.000000	0.000000
	NAR	Based on U concentration	0.000000	0.000000
	Decontamination and Decommissioning	1.1E-4 Kg U/batch	0.018810	0.004180
TOTAL - Kg U/month			0.037815	0.005388

* Hours as used in emission factor represent hours of operation in the mode which results in an air emission.

** Factors for Plant 6 Scrap Pickle and Briquetting were determined before these facilities were tied into the NOx Destructor. As a result, U emissions will be lower than reported. New emission factors will be developed when stack sampling is complete.

*** Due to the length of time required to analyze air activities, the reported values represent emissions from the previous month.

Environmental Compliance - Air/Water Compliance

1271

Stack Discharge Report for the period from June 6, 1990 to July 9, 1990

Collector Number	Status	Notes	Stack Discharges Estimated		Total This Year kg U
			During This Reporting Period kg U	Sampling Interval	
Plant 1					
G2-1	5	Filter #892	N/O	10/15/89	0.0
G2-2	5	Filter #894	N/O	10/15/89	0.0
G2-64	5	Filter #877	N/O	10/15/89	0.0
G2-76	5	Filter #891	N/O	10/15/89	0.0
G2-171	5	Filter #895	N/O	10/15/89	0.0
G2-172	3	Filter #127	N/O	5/6/90 to 6/2/90	0.0
	4	Filter #152	N/O	6/2/90 to 7/1/90	0.0
G2-235	3	Filter #149	N/O	5/27/90 to 6/23/90	0.0
G2-6042	Out of Service		N/O	10/16/89	0.0
G2-6014	3	Filter #128	N/O	5/6/90 to 6/2/90	0.0
	4	Filter #153	N/O	6/2/90 to 7/1/90	0.000356
Totals			0.0		0.000356

Plant 2/3					
G1-94	5	Filter #963	N/O	11/22/89	0.0
G1-856		Dismantled	N/O	11/13/89	0.0
Totals			0.0		0.0

Plant 4					
G4-1	5	Filter #897	N/O	10/15/89	0.0
G4-2	5	Filter #904	N/O	10/15/89	0.0
G4-4	3	Filter #129	N/O	5/6/90 to 6/2/90	0.0
	4	Filter #154	N/O	6/2/90 to 7/1/90	0.0
G4-5	3	Filter #130	N/O	5/6/90 to 6/2/90	0.0
	4	Filter #155	N/O	6/2/90 to 7/1/90	0.0
G4-7	5	Filter #898	N/O	10/15/89	0.0
G4-12	5	Filter #899	N/O	10/15/89	0.0
G4-13	5	Filter #900	N/O	10/15/89	0.0
G4-14	5	Filter #931	N/O	10/24/89	0.0
Talcum Cooling Vent	5	Filter #901	N/O	10/15/89	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.

2 - Filter inspected but not changed.

3 - Filter changed, analyzed and discharge estimated.

4 - Filter changed but analysis not complete. To be reported.

5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

6 - Duct sampler, not a discharge source. Emissions not included in report.

N/O = The dust collector and associated process sources were not operated.

Environmental Compliance - Air/Water Compliance

1271

Stack Discharge Report for the period from June 6, 1990 to July 9, 1990

Collector Number	Status	Notes	Stack Discharges Estimated		Total
			During This Reporting Period kg U	Sampling Interval	This Year kg U
Plant 5					
G5-247D	6	Filter #145	N/O	5/18/90 to 6/16/90	0.0
G5-248D	6	Filter #146	N/O	5/18/90 to 6/16/90	0.0
G5-248S	3	Filter #147	N/O	5/18/90 to 6/16/90	0.0
G5-249		Dismantled	N/O		
G5-250		Dismantled	N/O		
G5-254		Dismantled	N/O		
G5-267		Dismantled	N/O		
G5-256	5	Filter #132	N/O	5/13/90	0.0
G5-260	5	Filter #133	N/O	5/13/90	0.0
G5-261	5	Filter #134	N/O	5/13/90	0.0
G5-262	5	Filter #135	N/O	5/13/90	0.0
G5SE-100	5	Filter #136	N/O	5/13/90	0.002301
G5A-100		Dismantled	N/O	5/18/90	0.0
G5A-101	5	Filter #137	N/O	5/13/90	0.0
G5A-284D	6	Filter #150	N/O	5/26/90 to 6/24/90	0.0
G5A-284S	3	Filter #151	N/O	5/26/90 to 6/24/90	0.0
G5S-1017D	6	Filter #139	N/O	5/13/90 to 6/10/90	0.0
G5S-1016S	3	Filter #140	N/O	5/13/90 to 6/9/90	0.0
G05-1029Y	3	Filter #114	N/O	4/15/90 to 5/13/90	0.0
	3	Filter #141	N/O	5/13/90 to 6/9/90	0.0
G05-1020X	3	Filter #142	N/O	5/13/90 to 6/9/90	0.0
G05-1019X	3	Filter #143	N/O	5/13/90 to 6/9/90	0.0
Graphite Breakup Booth	5	Filter #965	N/O	11/22/89	0.0
E. Mold Cooling Booth	5	Filter #964	N/O	11/22/89	0.0
W. Mold Cooling Booth	5	Filter #968	N/O	11/22/89	0.0
East Cooling Well	5	Filter #915	N/O	10/19/89	0.0
West Cooling Well	5	Filter #916	N/O	10/19/89	0.0
Totals			0.0		0.002301

Plant 6

North ESP	5	Filter #65	N/O	2/19/90	0.0
South ESP	5	Filter #37	N/O	1/23/90	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.

2 - Filter inspected but not changed.

3 - Filter changed, analyzed and discharge estimated.

4 - Filter changed but analysis not complete. To be reported.

5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

6 - Duct sampler, not a discharge source. Emissions not included in report.

N/O = The dust collector and associated process sources were not operated.

Environmental Compliance - Air/Water Compliance

Stack Discharge Report for the period from June 6, 1990 to July 9, 1990

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period	Sampling Interval	Total This Year
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Plant 8	643-27	5	filter #928	N/O	10/24/89	0.0
	643-29	5	filter #929	N/O	10/24/89	0.0
	68-8035	5	filter #930	N/O	10/24/89	0.0
	68-8057	5	filter #896	N/O	10/15/89	0.0
	Totals			N/O		0.0

Plant 9	69E2-400	5	filter #38	N/O	1/23/90	0.0
	69N1-10350	3	filter #123	N/O	5/4/90 to 6/2/90	0.0
	69N1-10355	6	filter #156	N/O	6/2/90 to 6/30/90	0.0
	69N1-10355	3	filter #126	N/O	5/4/90 to 6/2/90	0.0
	Totals			N/O		0.0

Pilot Plant	735-13-7041	5	filter #39	N/O	1/23/90	0.0
	735-13-7051	5	filter #40	N/O	1/23/90	0.0
	G-1	3	filter #148	N/O	5/27/90 to 6/23/90	0.0
	G-2	3	filter #131	N/O	5/12/90 to 6/9/90	0.0
	Totals			N/O		0.0

Lab Bldg.	615-001	3	filter #144	N/O	5/18/90 to 6/16/90	0.0
	Totals			N/O		0.0

SITE TOTALS						0.002657
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Status: 1 - filter not inspected this period.

2 - filter inspected but not changed.

3 - filter changed, analyzed and discharge estimated.

4 - filter changed but analysis not complete. To be reported.

5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

6 - Duct sampler, not a discharge source. Emissions not included in report.

N/O = The dust collector and associated process sources were not operated.

TABLE A

1271

FMPC Controller's Organization - Materials Control & Accountability

Plant 8 Wet Scrubber Emission Report for the Period from 6/01/90 to 6/30/90

Wet Scrubbers	Emission Factors	Wet Scrubber Emissions Calculated During This Reporting Period		Total This Year
	U gms./hr. oper.	kg. U	Operating Hours	kg. U
Rotary Kiln	1.01 *	0	0	0
Oxidation No. 1 Furnace	7.11 *	0	0	0
Sox Furnace	2.06 *	0	0	0
Primary Calciner	0.51 * 3.00 **	0	0	0
Totals		0	0	0

- Current emission factors are based on USEPA-approved stack testing studies. These factors are documented in a letter, A. M. Schwartzman to D. L. Dunaway, dated July 5, 1988, Plant 8 Scrubbers.

** This emission factor is based on continuous stack sampling performed while Primary Calciner was drying wet sump cake (MTC 0069) during April 1989.

TABLE B

Estimated Uranium Emissions - Unmonitored Stacks

1271

Plant	Stack	Emission Factors*	YTD	
			Total Cumulative Emissions (Kg U)	Estimated June Emissions (KgU/mo)
5	Jolter Mufflers - east	6.03E-7 Kg U/liner	0.000000	0.000000
	Jolter Mufflers - west	6.03E-7 Kg U/liner	0.000000	0.000000
5	Breakout Jolter Muffler	8.22E-10 Kg U/derby	0.000000	0.000000
5	Remelt furnace Hilco Oil Reclamation/Furnace Vacuum Pump System	7.62E-8 Kg U/hr	0.000000	0.000000
6	Briquetting scrubber **	1.38E-6 Kg U/lb U processed	0.000000	0.000000
6	Scrap pickling **	3.46E-4 Kg U/hr	0.000000	0.000000
8	Drum washer	3.0E-4 Kg U/hr	0.000000	0.000000
8	Eimco filter - filter #1	9.08E-5 Kg U/lb	0.015546	0.000324
	Oliver filter - east filter	9.08E-5 Kg U/lb	0.004707	0.000923
8	Eimco filter hood fan ***	4.89E-6 (Kg U/hr)*(min*m3/dis)	0.000000	0.000000
9	Zirno - derby pickling	7.45E-6 Kg U/derby	0.000000	0.000000
Pilot Plt	Reactor area - Hydrogen safety system exhaust vent ***	1.61E+7 (Kg U/hr)*(cc/micro Ci)	0.000000	0.000000
Pilot Plt	Reactor area - Scrubber C (Vessel 1 & 2 offgas line)	6.62E-9 Kg U/hr	0.000000	0.000000
Pilot	Annex area - Stokes vacuum pump	1.73E-8 Kg U/hr	0.000000	0.000000
	NAR	Based on U concentration	0.000000	0.000000
	Decontamination and Decommissioning	1.1E-4 Kg U/batch	0.024530	0.005720
TOTAL - Kg U/month			0.044783	0.006967

* Hours as used in emission factor represent hours of operation in the mode which results in an air emission.

** Factors for Plant 6 Scrap Pickle and Briquetting were determined before these facilities were tied into the NOx Destructor. As a result, U emissions will be lower than reported. New emission factors will be developed when stack sampling is complete.

*** Due to the length of time required to analyze air activities, the reported values represent emissions from the previous month.